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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,999	05/10/2001	Hans Meiling	452080-2010	5824

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NEW YORK, NY 10151

EXAMINER

RAO, SHRINIVAS H

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,999

Applicant(s)

MEILING ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22,24 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 22,24 and 28-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/331,528.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of paper submitted under 35 U.S.C. 120, claiming priority from parent case U.S. Serial No. 09/331528 which itself claims priority from Netherlands Patent Application No. 1004886 filed on 23 December 1996 and PCT / EP97/07195 filed on December 18, 1997 which papers have been placed of record in the file.

Divisional Application

The request filed on 05/21/2001 for a Divisional Application (DA) based on parent Application No. 09/331528 is acceptable and a DA has been established. An action on the DA follows.

Preliminary Amendment Status

Acknowledgment is made of entry of preliminary amendment filed 05 /09 /2002.

Therefore claims 22,24 and 28-32 as recited in the preliminary amendment are currently pending in the Application. All other claims (1-20, 21,23 and 25-27) have been cancelled .

Drawings

The drawings filed on May /10 /2001 have been objected to by the drafts person for the reasons stated in the enclosed Pto-948

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 ,and 28-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 22 recites " an electronic device " having a substantially consistent gate voltage and saturation mobility ".

The description as originally filed only describes a transistor having the claimed properties and not " an electronic device" which need not include a transistor. to the extent Applicants' are presently claiming devices other than transistor the same is not taught by the originally filed specification.

Dependent claims 28-30 are rejected for at least depending upon a rejected claim.

Similarly claim 24 recites" device" instead of "transistor". It is noted that claim 24 as originally filed recited " . device" but was withdrawn from consideration and the first instance of examination herein is objected to.

Appropriate correction is required.

Claim 24 is also rejected for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 24 recites a saturation mobility lying in the range of about 0.001 to about $1000 \text{ cm}^2 / \text{V.s}$, whereas the specification as originally filed only describes the saturation mobility up to $500 \text{ cm}^2 / \text{V.s}$ and anything (i.e. any range claimed) beyond $500 \text{ cm}^2 / \text{V.s}$ is new matter.

Claim 31 is rejected at least for depending upon rejected claim 24.

I. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24, 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 24, 31 the phrase "substantially exclusive" renders the claim indefinite .

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It is not clear what Applicants' intend to include/exclude by the phrase "substantially exclusive", the word substantially leaves open the possibility of other materials being present whereas the word "exclusive" means a particular material and nothing else.

Therefore it is not clear whether Applicants' mean substantially leaving open the possibility of other materials being present or they mean a particular material and nothing else.

Dependent claim 31 is rejected for at least depending upon rejected claim 24.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22,24, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over H. Meiling et al. , " Stability of Hot-wire Deposited amorphous-silicon thin -film transistors " Appl. Phys. Lett. Vol. 69 No. 8, August 1996 pages 1062 to 1064, herein after Meiling) and Kikuo et al. , " Inverse-staggered Polycrystalline silicon thin-film transistors fabricated by Excimer Laser irradiation" Electronics and Communications in Japan, vol. 76, No.12, December 1993 Herein after Kikuo).

With respect to claim 22, to the extent understood, Meiling describes an electronic device (figure 1, TFT) having a substantially consistent gate voltage (Meiling page 1083 left hand column last full paragraph)

Meiling does not describe a saturation mobility U in the range of about 0.001 to about $100 \text{ cm}^2 / \text{V.s.}$

However, Kiku in figure 4 (page 42) describes saturation mobility up to $300 \text{ cm}^2 / \text{V.s.}$ to form large-area TFT-LCD like flat panel displays ,etc. and wherein the distribution of U is more uniform.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Kiku's higher saturation mobility in Meiling's device to form large-area TFT-LCD like flat panel displays ,etc. and wherein the distribution of U is more uniform. (Kiku pages 40, 42 and 45).

With respect to claim 24, to the extent understood, and assuming $1000 \text{ cm}^2 / \text{V.s.}$ is some how supported by the specification as originally filed, Meiling describes a device comprising substantially exclusive polycrystalline Si: H or a polycrystalline and amorphous Si:H layer, (Mieler page 1062 1st paragraph- left hand side) said device having a substantially consistent gate voltage and a saturation mobility lying in the range of about 0.001 to about $1000 \text{ cm}^2 / \text{V.s.}$ (Kiku page 42) .

With respect to claim 28 ,29, 31, 33 and 34 , to the extent understood, Meiling describes the electronic device which has a saturation mobility in the range of 0.001 to

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about $10 \text{ cm}^2 / \text{V.s.}$ (claims 28 and 33) and in the range of 0.001 to about $500 \text{ cm}^2 / \text{V.s.}$ (claim 31) and in the range of 0.001 to about $1.00 \text{ cm}^2 / \text{V.s}$ (claims 29 and 34). (Kiku figure 3, page 42).

With respect to claim 32, to the extent understood, Mieling describes a device obtainable according to a process for providing a semi conducting device comprising the steps of depositing a semiconducting layer onto a substrate situated in a vessel by means of heating a gas to a predetermined , dissociation temperature so that the gas dissociates in to fractions, whereby those fractions subsequently condense on the substrate to build up a semiconducting layer, wherein the substrate is periodically protected from the heating element and /or gas, present in the vessel, by means of a displaceable isolating shutter , and wherein said resultant device has a substantially consistent gate voltage and has a saturation mobility in the range of about 0.001 to about $100 \text{ cm}^2 / \text{V.s.}$

The limitations according to a process for providing a semi conducting device comprising the steps of depositing a semiconducting layer onto a substrate situated in a vessel by means of heating a gas to a predetermined , dissociation temperature so that the gas dissociates in to fractions, whereby those fractions subsequently condense on the substrate to build up a semiconducting layer, wherein the substrate is periodically protected from the heating element and /or gas, present in the vessel, by means of a displaceable isolating shutter in claim 32 are taken to be product by process limitations and not limiting . A product by process claim is directed to the product per se , no matter how actually made . See *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974) : *In re*

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Marosi et al. , 218 USPQ 289, 292 (Fed. Cir. 1983) and particularly In re Thrope , 227 USPQ 964, 966 (Fed. Cir. 1985) , all of which make it clear that it is the patentability of the final structure " gleaned " from the process steps , which must be determined in a " product by process " claim and not the patentability of the process. See also MPEP Section 2113 .. More ever an old or obvious product produced by a new method is not a patentable product by a new method is not a patentable product, whether claimed in a product by process claims or not.

The remaining limitations of claim 32 are :

device has a substantially consistent gate voltage and has a saturation mobility in the range of about 0.001 to about 100 cm²/ V.s. (rejected for same reasons as set out under claim 22 above).

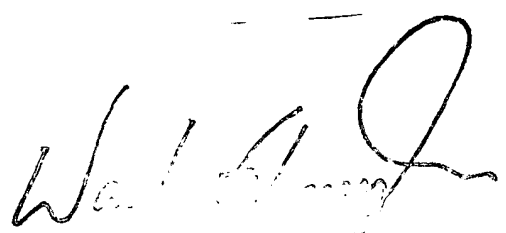
Any inquiry concerning this communication or earlier communication from the examiner should be directed to Steven H. Rao whose telephone number is (703) 306-5945. The examiner can normally be reached on Monday- Friday from approximately 7:00 a.m. to 5:30 p.m.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The Group facsimile number is (703) 308-7724. .


Steven H. Rao

Patent Examiner

June 25, 2003.


SUPERVISOR PRIMARY EXAMINER
TECHNOLOGY CENTER 2800